A New Aphis on California Sage

APHIS HILTONI n. sp.

(Figure 1)

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Apterous Viviparous Female.—

(Figure 1, A). Length 1.3 mm., width of abdomen 0.9 mm. Prevailing color pale green, the dorsum partially covered with a fine white powdery wax which is arranged in minute pore-like or mosaic rings. The areas not so covered appear dark in the illustration. There are numerous black pigmentations dorsally and laterally on the epidermis of the mounted specimens. The cornicles, cauda and anal plate; all of the legs excepting the basal three-fourths of the tibiae; and antennal articles, VI, V, II, I and the tip of IV are black or dusky. The remainder of the antennae and tibiae are yellow. The rostrum extends slightly beyond the base of the abdomen. The antennae are shorter than the body, the relative lengths of the articles being:

I. 0.065 mm., II. 0.055 mm., III. 0.227 mm., IV. 0.167 mm., V. 0.155 mm., VI. 0.280 mm., (base 0.130 mm., spur 0.150 mm.), total length 0.949 mm. There are the usual sensoria on articles V. and VI. The prothoracic tubercle is well pronounced. There is also a well defined pair of anterior and a pair of posterior abdominal tubercles (Figure 1, A. tub. i, ii, iii). The tarsi are small and one-third as long as the cornicles. (Figure 1, At.). The cornicles are black, cylindrical and somewhat tapered towards the tip, straight, slightly imbricated; 0.37 mm. long, and 0.06 mm. wide at the base. The cauda and anal plate are black (Figure 1, A. cauda).

Winged Viviparous Female.—

Length 1.20 mm., width of abdomen 0.56 mm. Prevailing color black with abdomen and legs dusky yellow. The dorsum may also be partially covered with a fine white powdery wax. The antennae (Figure 1.W. ant) are dusky to black throughout, the length of the different articles: I. 0.070 mm., II. 0.050 mm., III. 0.200 mm., IV. 0.155 mm., V. 0.153 mm., VI. 0.280 mm. (base 0.125 mm., spur 0.155 mm.), total length 0.908 mm. Article III usually has four or five large circular sensoria along the lower side, but there are sometimes six. The usual sensoria occur on V and VI. The rostrum reaches to the second abdominal segment. The prothoracic and abdominal tubercles are much like those in the apterous form and are illustrated in Figure 1, W. tub. The wings (Figure 1, W.) are normal in venation as illustrated. The lengths are:

primary 2 mm., secondary 1.2 mm. The cornicles are black, imbicated, cylindrical, somewhat larger near the base, the outer margin straight, the inner margin as illustrated (Figure 1, W. corn.). The length 0.10 mm., greatest width 0.05 mm. The cauda and anal plate are black and as illustrated (Figure 1, W. cauda).

RELATIONSHIP—This species has been carefully checked with *Aphis reticulata* Wilson, *A. oregonensis* Wilson, *A. hermistonii* Wilson, *A. tridentatae* Wilson, *A frigidae* Oestlund, and *Aphis artemiscola* Williams occurring in Oregon on *Artemisia tridentata*, and does not agree with any of them or other closely related species.

HOST—The species occurs in dense colonies on the apical twigs of old man or California sage, *Artemisia californica* Less.

LOCALITY—In Laguna Canyon one-half mile above Laguna Beach, California.

DATE OF COLLECTION—July 13, 1921.

COTYPES—The above description was made from a series of cotypes consisting of ten slides and over one hundred mounted individuals. The cotypes are in the author's collection.

The species is named after Dr. Wm. A. Hilton, Professor of Zoology, Pomona College, under whose supervision, inspiration and energy a most wonderful type of biological instruction is being given each summer at the Laguna Beach Laboratory.

Figure 1.—*Aphis hiltoni* n. sp.

A. Apterous viviparous female; A. tub., body tubercles of apterous female; i, prothoracic; ii, front abdominal; iii, posterior abdominal; A. corn., apterous cornicle; A., cauda, apterous cauda and anal plate; At. t., apterous tarsus; A. ant., apterous antenna; W, wings; W. ant., antenna of winged female; W. corn., cornicle of winged female; W. cauda, cauda and anal plate of winged female; W. tub., body tubercles of winged female; i, prothoracic; ii, front abdominal; iii, posterior abdominal.